

*A Florida International University
Knight's Foundation School of Computing and Information
Sciences*

Software Engineering Focus

Final Deliverable

Anxiety & Stress Self Management Application
Fall 2022

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Product Owner(s): Liane Sangollo

Instructor: Dr. Masoud Sadjadi

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Abstract

This document serves as an informative presentation to gain an adequate understanding of the second iteration of the Anxiety & Stress Self Management App.

For this iteration, the goal was to update the design that was initially created by the first and second iterations, and to further expand upon the database. The team was successful in this goal within these past seven sprints, except for the database due to unforeseen circumstances..

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Introduction

The purpose of this capstone project was to continue the development of the first and second iteration of the Anxiety and Stress Self Management mobile application, HowRU.life. Primarily, the app's goal is to be an interactive platform to help users manage stress and anxiety by first evaluating how they feel and then offering healthy practices to help eliminate the stress and/or anxiety that the user is facing. With the ever increasing demand of people suffering from mental health issues, it has been very difficult for patients to seek some cure and relief from stress and anxiety. When dealing with day to day activities, whether it is school or work, many people sometimes face stress and/or become anxious. Furthermore, there are limited resources in the market that allow for these people to help cope with stress and anxiety. The app's goal is to be an interactive platform to help users manage stress and anxiety by first evaluating how they feel and then offering healthy practices to help eliminate the stress and/or anxiety that the user is facing

Liane Sangollo intended on developing a mobile application in order for individuals of all ages and backgrounds to have a way of dealing with the mental obstacles many people face on a daily basis. HowRU is designed for users to track their mental health and document their journey in order to develop their well being. The application also offers multiple outlets on how to combat anxiety in a way that gives everyone a safe and healthy outlook.

Current System

This is the third iteration of the Anxiety & Stress Self Management application. The current system allows users to fill in a series of questions all related to their stress and anxiety. As well as providing breathing exercises for the user to assist in sleeping or to help calm themselves down.

Purpose of New System

First iteration

The first iteration of the Anxiety & Stress Self Management application was completed by the Capstone II team composed of Juan Arias, Robert Aguilar, Manuel Kamboykos, Daniel Navarro, and Aaron Sasenaryan. The purpose of this iteration is to create the foundation for the application by creating a base design and adding front-end and back-end components. The design was developed using Figma to assist in the specification of colors and styles for the pages within the discussion forum. This involved detailed research of the project packages that would fit the desired stack. Research on React Native and Firebase was done during the development of the project. The login, sign up, forgot password, emotion sliders, stressor/reasons, breathing, food for thought, dashboard, and mood diary was implemented. The backend was implemented using Firebase.

Second iteration

The second iteration of the Anxiety & Stress Self Management application was completed by the Capstone II team composed of Daniel Perez, Jorge Aguero, Julieta Albano, Janeel Abrahams, Raul Gutierrez Niubo and the Senior Project member, Annie Brigido. The purpose of this iteration is to expand the foundation set by the 1st iteration and add new features to enhance the usage of the app. A second breathing screen was implemented so users now have two choices of breathing exercises, between the 4-4-4-4 and 4-7-8 exercises. Push notifications were added so users can enable reminders whenever they want. Lastly, the mood diary was updated to improve user experience.

Third iteration

The third iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team composed of Noah Pineiro, Cecilia Gervasoni Latorre, Luis Artimez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka. We were given plenty of

help and useful ideas from the Capstone I team composed of Ximena Puig, Robert Velazquez, Jose Aguiar, Ryan Neubert. The purpose of this iteration was to further improve the design that was left behind by the previous two iterations and add to the database. The colors of the backgrounds of most of the screens was changed, along with the menu and four quadrants sections getting complete overhauls. The

User Stories

The following section provides the detailed user stories that were implemented in this iteration of the Anxiety & Stress Self Management project. These user stories served as the basis for the implementation of the project's features. This section also shows the user stories that are to be considered for future development.

Implemented User Stories

- **User Story 1: As a developer, I want to learn how to properly use all the software required for this project.**
- **User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)**
- **User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)**
- **User Story 6: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)**
- **User Story 7: As a user, I want the daily notification GUI to look nicer overall. (LOW PRIORITY)**
- **User Story 8 - As a user, I would like to be able to have my credentials stored to use the application easier. (MEDIUM PRIORITY)**

Uncompleted User Stories

- **User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)**
- **User Story 5: As a user, I want to be able to see how many days I've logged into the app in a row. (LOW PRIORITY)**

Project Plan

This section describes the planning that went into the realization of this project. This project incorporated agile development techniques and as such required the sprints to be planned. These sprint plannings are detailed in the section. This section also describes the components, both software and hardware, chosen for this project.

Hardware and Software Resources

The following is a list of all software resources that were used in this project:

- **Java/JavaScript:** A scripting language used to write the code for the application
- **React Native:** An open-source, front-end, JavaScript library for building user interfaces or UI components that serve open-source as the engine for the front-end of the application.
- **React Native CLI:** Used to generate react-native files and manage the projects.
- **GitHub:** A web-based version-control and collaboration platform for software developers.
- **GitHub Desktop:** Optional support application that enables Git collaboration.
- **Visual Studio Code:** a source-code editor developed by Microsoft for Windows
- **Firebase:** A backend as a service platform that was used for authentication and to handle user data.
- **MongoDB:** A backed as a service platform that will be used for authentication and handle/store user data.

For Future Development:

- **Stripe:** Service payment provider to charge users membership fees.
- **Google AdMob:** A global ad network used to implement ads in the app.

Sprint Planning Meetings

Sprint #1 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: Liane Sangollo

Date: 08/30/2022

Start time: 8:00 PM EST

End time: 8:30 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead, we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.
- **Noah Pineiro, Robert Velasquez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.
- **Ximena Puig, Cecilia Gervasoni Latorre, Jose Aguiar, Ryan Neubert, Tatendaishe Mahaka**

- **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.
- **Jose Aguiar, Robert Velasquez, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**
 - We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.

Sprint #2 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: Liane Sangollo

Date: 09/12/2022

Start time: 9:00 PM EST

End time: 9:30 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead, we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.
- **Noah Pineiro, Robert Velasquez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.
- **Ximena Puig, Cecilia Gervasoni Latorre, Jose Aguiar, Ryan Neubert, Tatendaishe Mahaka**

- **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.
- **Jose Aguiar, Robert Velasquez, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**
 - We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.

Sprint #3 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: Liane Sangollo

Date: 09/26/2022

Start time: 9:00 PM EST

End time: 9:30 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead, we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.
- **Robert Velasquez, James Bustos, Eduardo Gomez, Cecilia Gervasoni, Tatendaishe Mahaka**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.
- **Noah Pineiro Jose Aguiar, Tatendaishe Mahaka, Eduardo Gomez**

- **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.
- **Noah Pineiro, Ximena Puig, Jose Aguiar, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**
 - We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.
- **James Bustos, Cecilia Gervasoni, Ximena Puig, Ryan Neubert, Robert Velasquez**
 - **User Story 5 - As a user, I want to get a notification at a certain time in the day that tells me to log into the app.**
 - In the settings we will add an option that will allow users to receive a notification telling them to sign in one time a day at their time of their choosing.

Sprint #4 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: Liane Sangollo

Date: 10/04/2022

Start time: 9:00 PM EST

End time: 9:30 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Robert Velasquez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka, Cecilia Gervasoni**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.
- **Ximena Puig, Cecilia Gervasoni Latorre, Jose Aguiar, Ryan Neubert, Tatendaishe Mahaka, Eduardo Gomez**
 - **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.
- **Jose Aguiar, Robert Velasquez, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**

- We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.
- **Noah Pineiro, James Bustos, Robert Velasquez, Tatendaishe Mahaka, Luis Artimez**
 - **User Story 5 - As a user, I want to be able to see how many days I've logged into the app in a row.**
 - We will create a system where the user's log on is saved to show the user how many days they have interacted with the application in a row.
- **Noah Pineiro, Ximena Puig, Robert Velasquez, Luiz Artimez**
 - **User Story 6 - As a user, I want to get a notification at a certain time in the day that tells me to log into the app.**
 - A notification system will be put into place where users can set a time to get a notification that will tell them to log in and complete the application's daily check-in.

Finished User Stories

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead. we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.

Sprint #5 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: Liane Sangollo

Date: 10/24/2022

Start time: 8:30 PM EST

End time: 9:00 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Robert Velasquez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka, Cecilia Gervasoni**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.
- **Ximena Puig, Cecilia Gervasoni Latorre, Jose Aguiar, Ryan Neubert, Tatendaishe Mahaka, Eduardo Gomez**
 - **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.
- **Jose Aguiar, Robert Velasquez, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**

- We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.
- **Noah Pineiro, James Bustos, Robert Velasquez, Tatendaishe Mahaka, Luis Artimez**
 - **User Story 5 - As a user, I want to be able to see how many days I've logged into the app in a row.**
 - We will create a system where the user's log on is saved to show the user how many days they have interacted with the application in a row.
- **Noah Pineiro, Ximena Puig, Robert Velasquez, Luiz Artimez**
 - **User Story 6 - As a user, I want to get a notification at a certain time in the day that tells me to log into the app.**
 - A notification system will be put into place where users can set a time to get a notification that will tell them to log in and complete the application's daily check-in.

Finished User Stories

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead. we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.

Sprint #6 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: After discussion, the velocity of the team was estimated to be 40 hours.

Date: 11/7/2022

Start time: 8:30 PM EST

End time: 9:00 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Robert Velasquez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka, Cecilia Gervasoni, Jose Aguiar. Ryan Neubert**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.
- **Jose Aguiar, Robert Velasquez, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**
 - We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.
- **Noah Pineiro, James Bustos, Robert Velasquez, Tatendaishe Mahaka, Luis Artimez**
 - **User Story 5 - As a user, I want to be able to see how many days I've logged into the app in a row.**

- We will create a system where the user's log on is saved to show the user how many days they have interacted with the application in a row.
- **Noah Pineiro, Ximena Puig, Robert Velasquez, Luiz Artimez**
 - **User Story 6 - As a user, I want to get a notification at a certain time in the day that tells me to log into the app.**
 - A notification system will be put into place where users can set a time to get a notification that will tell them to log in and complete the application's daily check-in.
- **Noah Pineiro, Robert Velasquez, Luis Artimez**
 - **User Story 7 - As a user, I want the daily notification GUI to look nicer overall.**
 - Since the system for the daily notification has already been implemented, now we have to improve its design.
- **Noah Pineiro, Robert Velasquez, Luis Artimez, Ximena Puig**
 - **User Story 8 - As a user, I would like to be able to have my credentials stored to use the application easier.**
 - With the unforeseen events happening with Firebase, we will be implementing a new database so users can make accounts for the application.

Finished User Stories

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead, we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.

- **Ximena Puig, Cecilia Gervasoni Latorre, Tatendaishe Mahaka, Eduardo Gomez**
 - **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.

Sprint #7 Planning Meeting

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka

Product Owner: After discussion, the velocity of the team was estimated to be 40 hours.

Date: 11/21/2022

Start time: 8:30 PM EST

End time: 9:00 PM EST

Stories Put Into Sprint

- **Noah Pineiro, Robert Velasquez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka, Cecilia Gervasoni, Jose Aguiar. Ryan Neubert**
 - **User Story 2 - As a user, I want to see the Stress & Anxiety Management application have a nicer design.**
 - *The current design of the application, while very straightforward and plain, lacks the creative aspect that could draw users to it. We will be editing the design of the app to give it a more user-friendly feel to it.*
- **Jose Aguiar, Robert Velasquez, Ryan Neubert, Luis Artimez**
 - **User Story 4 - As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion.**
 - *We will create a database to store all the necessary user data and display that data via a graph to show their progress through using the application.*
- **Noah Pineiro, James Bustos, Robert Velasquez, Tatendaishe Mahaka, Luis Artimez**
 - **User Story 5 - As a user, I want to be able to see how many days I've logged into the app in a row.**

- We will create a system where the user's log on is saved to show the user how many days they have interacted with the application in a row.
- **Noah Pineiro, Robert Velasquez, Luis Artimez**
 - **User Story 7 - As a user, I want the daily notification GUI to look nicer overall.**
 - Since the system for the daily notification has already been implemented, now we have to improve its design.
- **Noah Pineiro, Robert Velasquez, Luis Artimez, Ximena Puig**
 - **User Story 8 - As a user, I would like to be able to have my credentials stored to use the application easier.**
 - With the unforeseen events happening with Firebase, we will be implementing a new database so users can make accounts for the application.

Finished User Stories

- **Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Luis Artimez, Tatendaishe Mahaka**
 - **User Story 1 - As a developer, I want to learn how to properly use all the software required for this project.**
 - After getting into contact with the previous Cap II Team Lead, we will begin to download and install all the necessary software to begin working on the Stress & Anxiety Management application.
- **Ximena Puig, Cecilia Gervasoni Latorre, Tatendaishe Mahaka, Eduardo Gomez**
 - **User Story 3 - As a user, I want my experience with the application to be more immersive and friendly to the senses.**
 - Will be adding voice lines to different parts of the app to increase the auditory senses within the app. Will also be adding more to the app to help make it feel more immersive.

- **Noah Pineiro, Ximena Puig, Robert Velasquez, Luiz Artimez**
 - **User Story 6 - As a user, I want to get a notification at a certain time in the day that tells me to log into the app.**
 - *A notification system will be put into place where users can set a time to get a notification that will tell them to log in and complete the application's daily check-in.*

System Design

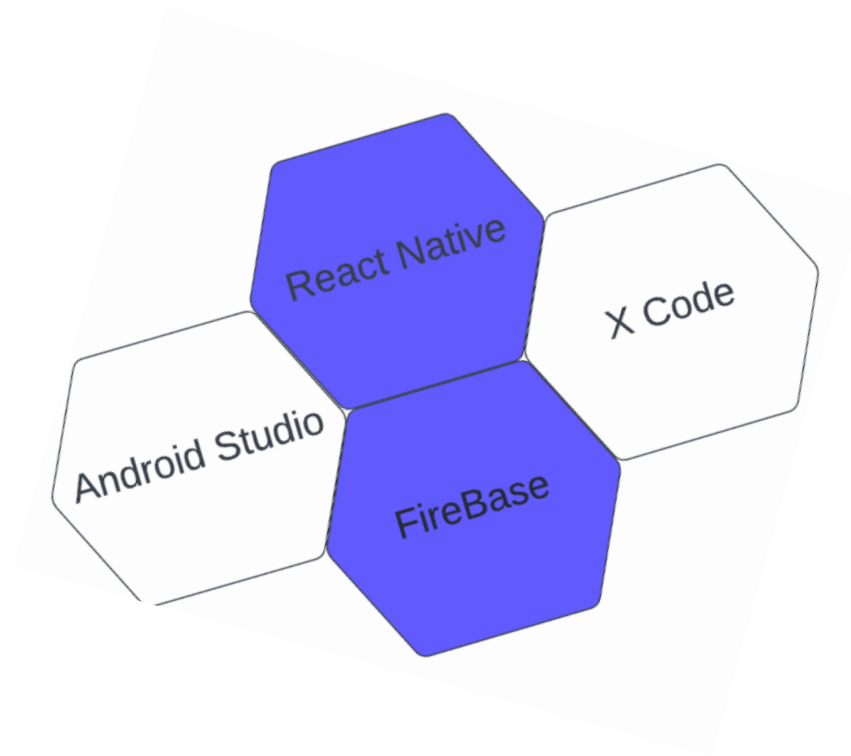
This section contains information on the design decisions that went into this project. The architecture patterns are outlined and explained. The entire system is shown in a package diagram and the subsystems are explained. Finally, the design patterns used in the project are discussed.

Architectural Patterns

The HowRU.life app was built from the ground up; thus, there is no used code. The architecture utilizes React Native and Firebase on the Backend, along with Android Studio and XCode for Android and iPhone operating system development, respectively. A big advantage of HowRU.life is the advanced functionality of determining exercises based on the user's current mood. This could be further developed with the advancements in Artificial Intelligence technology to further make decisions on what exercise is proper for a user based on his or her current mood. This is a full-stack application that utilizes React Javascript framework as the main frontend component, whereas Firebase, Android Studio, and XCode manages backend processes. Furthermore, Firebase was mostly used as a database to store users' information and authentication. For example, when a user enters their account identification information, such as their name, email, and password, the information for that particular user is saved into the Firebase database. Therefore, when they are ready to login again after signing up, the application would connect with the Firebase server and find all users that have an account created with the application. The backend runs completely separate from the frontend, so if for some reason the backend is broken, it does not affect the way the user sees the application and its components.

System and Subsystem Decomposition

The frontend and backend of HowRU.life is heavily connected. Before a user could even use the application, he or she must register and set up with the application. The storing of information for each and every application user is performed by Firebase, which is on the backend side of the application. In addition, for future development of the application, new technologies, such as Artificial Intelligence, can help to make appropriate decisions to offer solutions for a user's current mood. In addition the main function of our application is to take in user's input and store it within our database. This information is then passed along through a sequence of functions that allow the user to interact with the UI. The frontend components are handled by React Javascript. We also included several global style files to facilitate changes in the future such as color theme, button, and fonts.

Back-end architecture tools

This system architecture represents the deployed server version. The backend is running with React Native and FireBase.

Front-end architecture tools

This project is built off of the model, view, controller architecture to separate each of the project's components into easily understandable parts. The model is our database and data structure, the view is the user interface, and the controller accepts and converts the input.

Databases

```

"seif3yb1": [
  "users": [
    "_id": "MzRirZZ9rELyEr5lt7",
    "profile": [
      "name": "Robert Aguilar",
      "email": "robertA@gmail.com",
      "code": "seif3yb1",
      "password": "Password123@",
    ],
    "settings": [
      "notification": "true",
    ],
    "data": [
      "04/18/2022": [
        "entry-1": [
          "mood": "3",
          "control": "3",
          "choice": [
            "dailyStressors": [
              "stressors": "",
              "reason": [ "" ],
            ],
            "exercises": [
              "exercise": "breathing",
              "music": "rain",
              "cycles": "3",
            ],
          ],
          "foodForThought": [
            "what": "",
            "who": "",
            "where": "",
            "when": "",
            "why": "",
          ],
          "date": "04/18/2022",
          "intentionToChange": "4",
        ],
        "entry-2": [
          "mood": "3",
          "control": "3",
          "choice": [
            "dailyStressors": [
              "stressors": "Work",
              "reason": [ "Boss", "Communication" ],
            ],
            "exercises": [
              "exercise": "",
              "music": "",
              "cycles": "",
            ],
          ],
          "foodForThought": [
            "what": "",
            "who": "",
            "where": "",
            "when": "",
            "why": "",
          ],
          "date": "04/18/2022",
          "intentionToChange": "4",
        ],
      ],
    ],
  ],
],

```

Deployment Diagram

Our team is dedicated on continuing to enrich the quality of our mobile application, however at this time we have no plans of distribution at this time.

Design Patterns

The design patterns that we used for our application are as follows: A composite design pattern, an observer design pattern, and a state design pattern. The composite design pattern consists of a simple screen of objects and components that go in those screens. The screens are organized in a hierarchy that determines the navigation between them. The observer design pattern works between the screens by having them share information among themselves using the navigation structure, and therefore making them aware of changes in each other. The state design pattern exists inside the screens and components in which states are declared and initialized, and the screens/components are updated when there is a change in the state, allowing for complex behaviors and interactions.

System Validation

Testing was done locally through emulators and mobile devices and error checking was done using the console log output in order to debug. Testing was focused on functionality, layout, and communication with the back-end. On the emulators and mobile devices, testing on the functionality of buttons and components was done, as well as checking the layout on screens of different sizes. Furthermore, back-end testing was performed to ensure that users were created correctly and that verification was performed on login.

Glossary

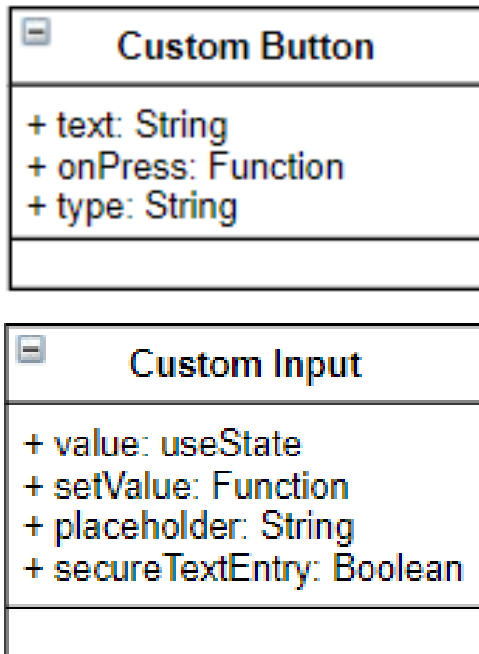
- **Java/JavaScript:** A scripting language used to write the code for the application
- **React Native:** An open-source, front-end, JavaScript library for building user interfaces or UI components that serve open-source as the engine for the front-end of the application.
- **React Native CLI:** Used to generate react-native files and manage the projects.
- **GitHub:** A web-based version-control and collaboration platform for software developers.
- **GitHub Desktop:** Optional support application that enables Git collaboration.
- **Visual Studio Code:** a source-code editor developed by Microsoft for Windows

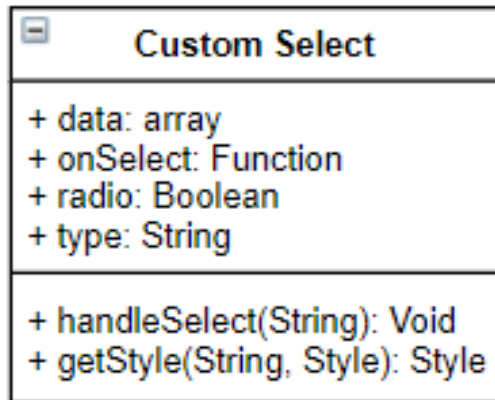
- **Firebase:** A backend as a service platform that was used for authentication and to handle user data.
- **MongoDG:** A backed as a service platform that will be used for authentication and handle/store user data.
- **Stripe:** Service payment provider to charge users membership fees.
- **Google AdMob:** A global ad network used to implement ads in the app.

Appendix

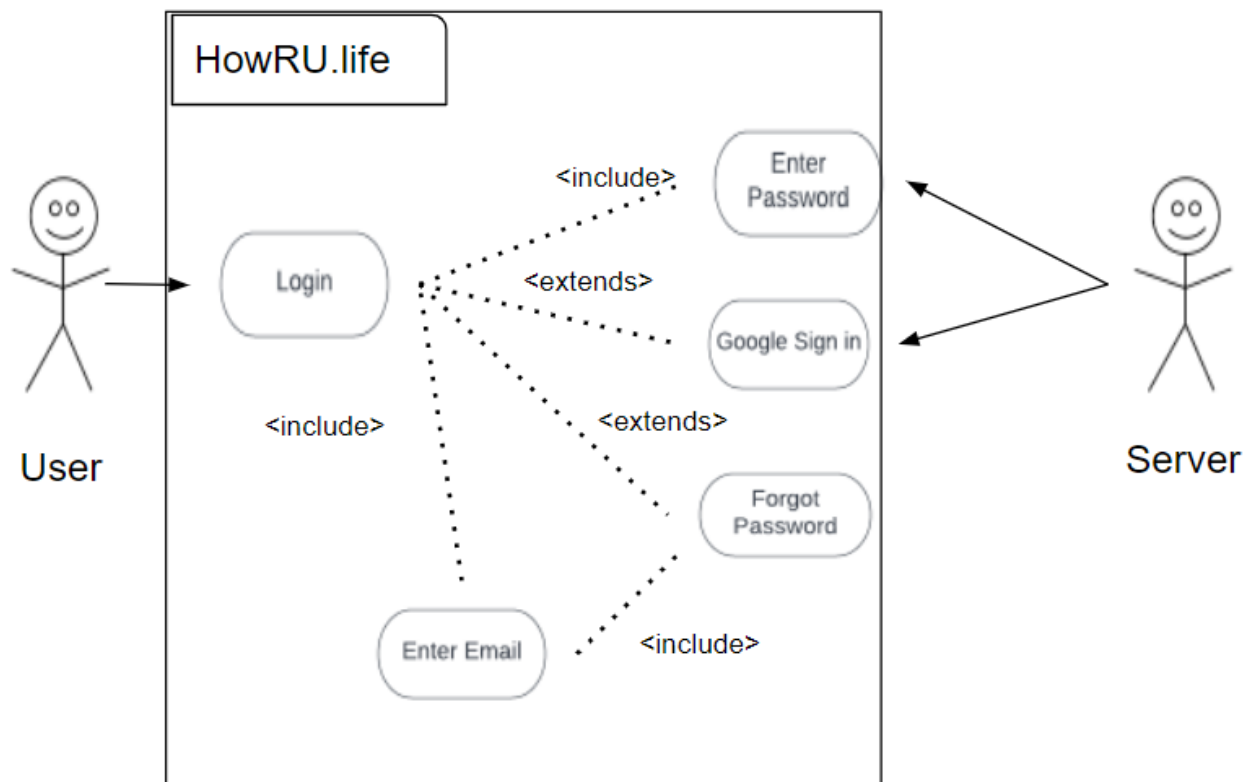
Appendix A - UML Diagrams

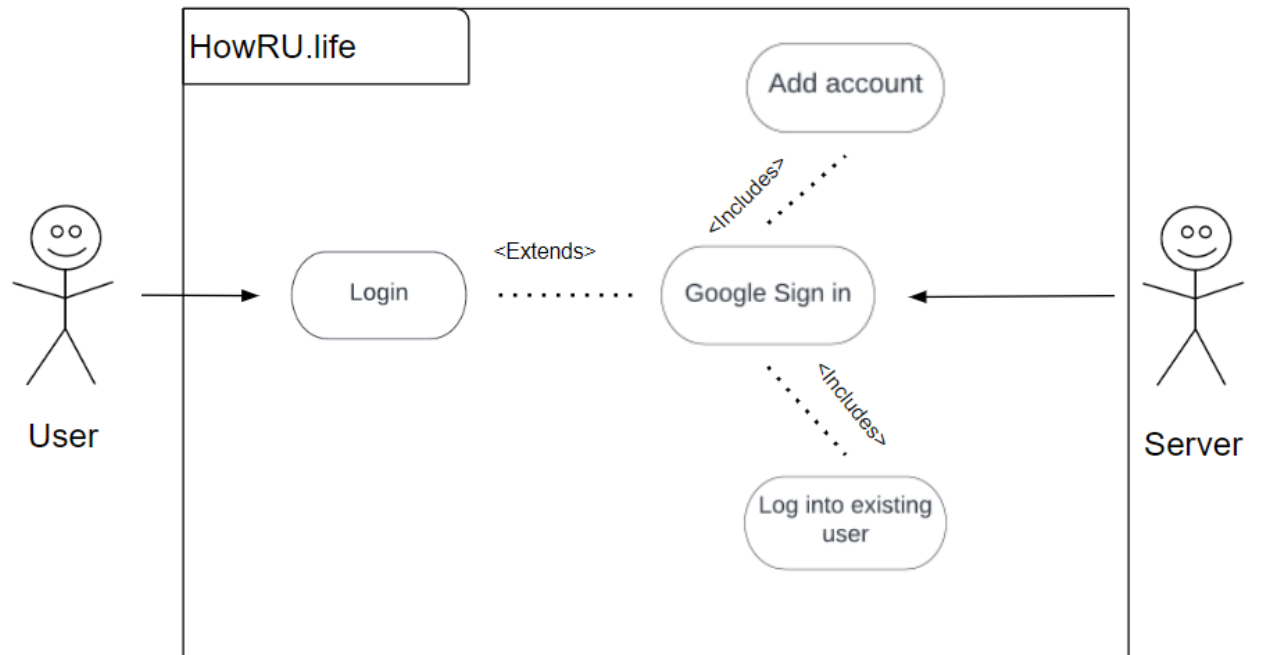
1. Class Diagram



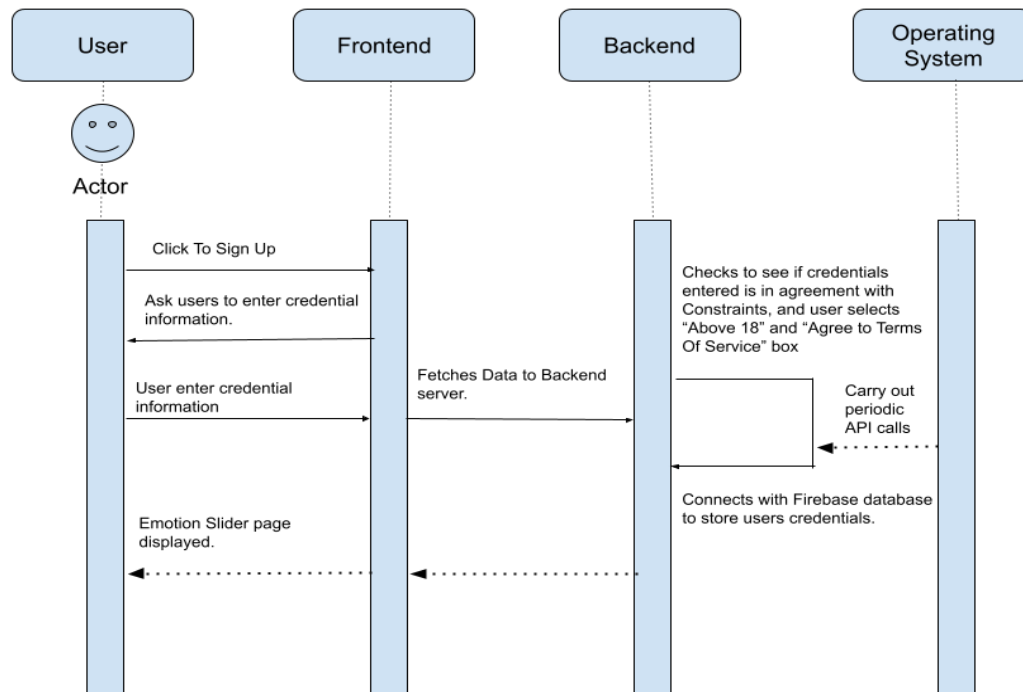


2. Use Case Diagrams



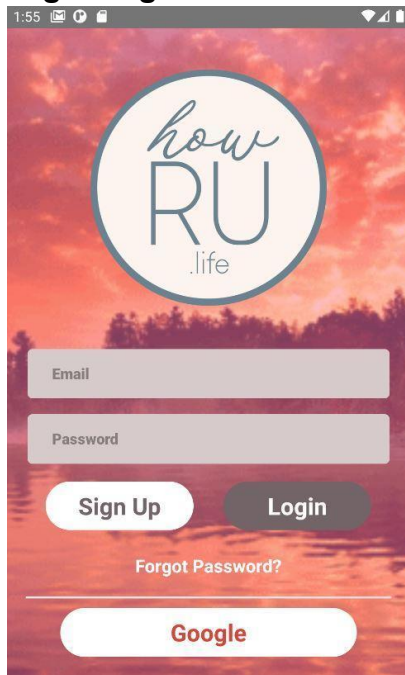


3. Sequence Diagram



Appendix B - User Interface Design

1. Login Page



2. Sign Up Page

The sign up page has a light pink background. At the top left is the time '9:41' and at the top right are signal and battery icons. Below the status bar is a circular logo with 'how RU .life' and a close button 'X'. The title 'Sign Up' is centered, followed by the instruction 'Please fill in the fields below'. There are five input fields: 'Name', 'Email', 'Code *optional', 'Password', and 'Confirm Password'. Below the 'Confirm Password' field is a text block: 'longer than 8 characters, shorter than 20 characters, no white spaces, at least 1 uppercase, at least 1 lowercase, at least 1 number, at least 1 special character.' Below this are two checkboxes: 'I confirm that I am over the age of 18' and 'I confirm that I have read, consent, and agree to the terms of [policy](#)'. At the bottom is a dark blue button with the text 'Sign Up'.

3. Forgot Password Page

9:41

how RU

×

Forgot Password

Please enter your email corresponding to your account.

Email

Continue

4. Policy Page

9:41

how RU

×

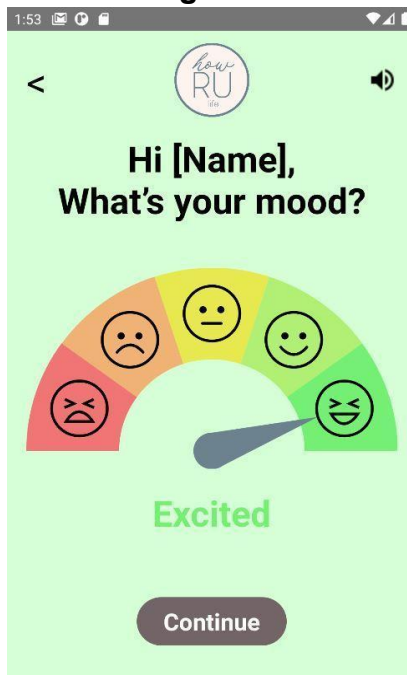
Policy

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec tincidunt sit amet justo vel aliquam. Aenean at felis vehicula, feugiat lectus at, blandit erat. Maecenas facilisis velit eu nisl commodo condimentum. Aliquam vestibulum, lorem nec sagittis dignissim, sapien velit mollis neque, at posuere orci lorem eget mi. Maecenas in sapien nec dolor aliquet sollicitudin ac eu quam. Nam vel libero pharetra, volutpat magna vitae, hendrerit tellus. Cras aliquam dapibus mi, quis bibendum eros tincidunt elementum. Nullam posuere semper ipsum, quis sagittis metus cursus sed. Etiam dapibus ex eget dui mattis, at commodo dolor euismod. Morbi tincidunt, nunc non auctor egestas, eros nulla interdum nibh, in bibendum metus dolor consequat nulla. Vivamus mauris nibh, egestas sed auctor eu, blandit sed nunc.

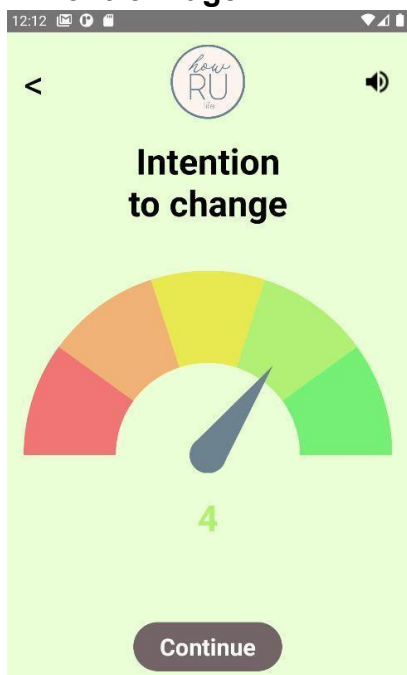
Quisque gravida tempor libero, quis dignissim ex scelerisque sit amet. Quisque et tellus leo. Etiam at volutpat odio, id dictum dolor. Cras pulvinar mi vel molestie lobortis. In mollis augue at erat feugiat, eu hendrerit justo consequat. Mauris aliquet nulla ac interdum venenatis. Phasellus eu lacus arcu. Duis sed imperdiet nisl, a semper nibh. Pellentesque nec neque eget erat accumsan sodales. Phasellus imperdiet arcu non semper mattis. Donec posuere tellus magna, a porttitor leo porttitor ultricies. Proin imperdiet ante vel fringilla maximus. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Quisque condimentum dolor quis ipsum sollicitudin, vel commodo augue efficitur. Donec tellus tellus, tristique eu augue eu, viverra molestie justo. Praesent laoreet tincidunt nisl. Pellentesque habitant morbi tristique senectus et nunc et

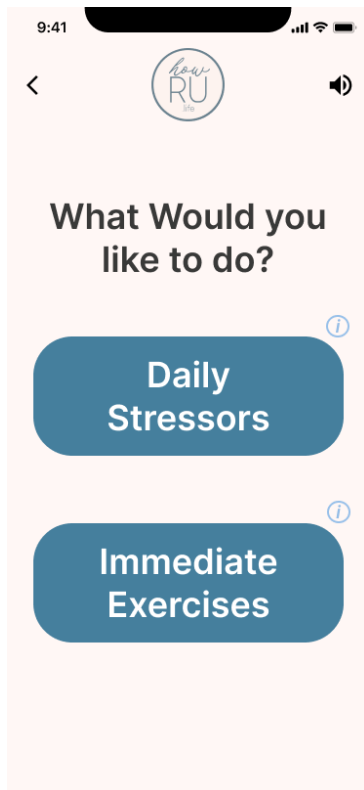
5. Emotion Page



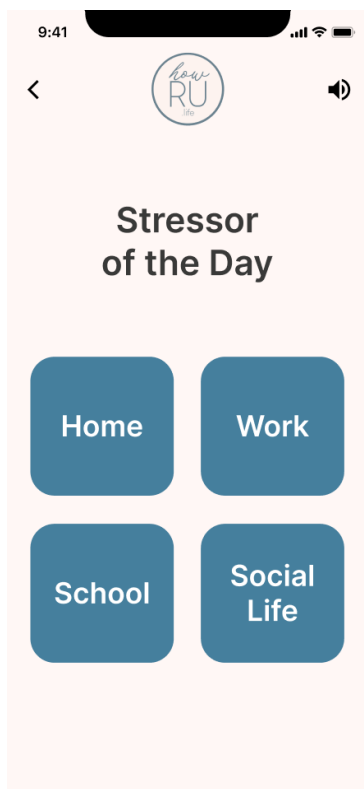
6. In Control Page



7. Choice Page



8. Stressor Page



9. Reasons Page

9:41

< how RU >

What are your stressors at [-]?

Reason 1 Reason 2 Reason 3

Reason 4 Reason 5 Reason 6

Reason 7 Reason 8 Reason 9

Reason 10 +

Continue

10. Day/Night Breathing Info Pages

2:44

< how RU >

4-4-4-4 Day Exercise

To help you relax.

Breathe in through your nose for 4 seconds.

Hold your breathe for 4 seconds.

Breathe out through mouth for 4 seconds.

Next

2:44

< how RU >

4-7-8 Sleep Exercise

To help you relax.

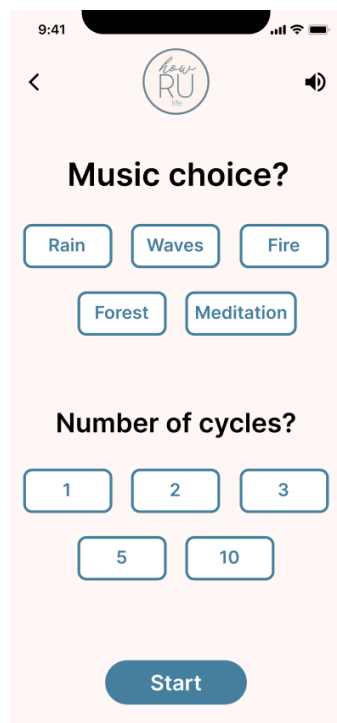
Breathe in through your nose for 4 seconds.

Hold your breathe for 7 seconds.

Breathe out through mouth for 8 seconds.

Next

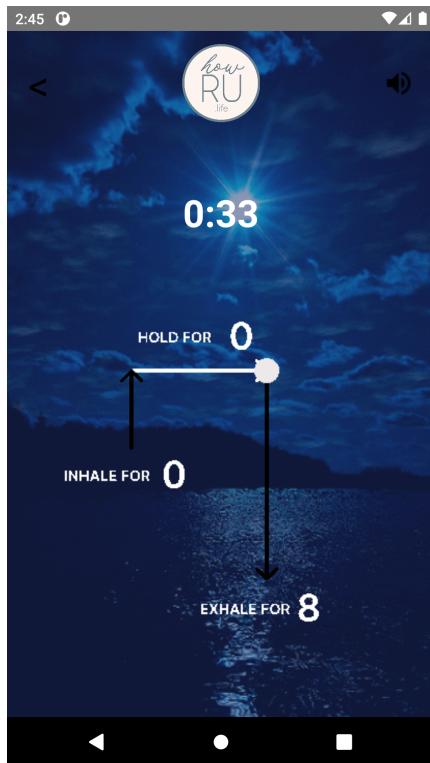
11. Breathing Control Page



12. Day Breathing Timer Page



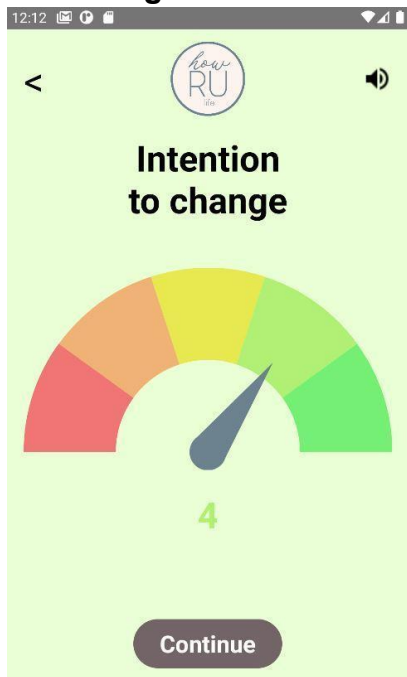
13. Night Breathing Timer Page



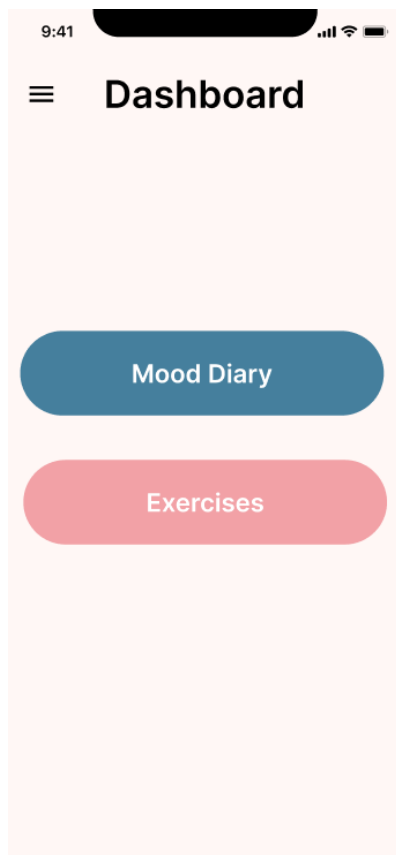
14. Food for Thought Page

A screenshot of a mobile app interface for a "Food for thought" page. The background is a light pink color. At the top, there's a status bar showing "9:41" and a circular logo with "how RU" and "life" below it. Below the logo, the title "Food for thought" is displayed in a bold, black font. Underneath the title, there are five input fields, each preceded by a label: "What", "Who", "Where", "When", and "Why". Each input field contains the same label as the one above it. At the bottom, there's a blue button with the word "Submit" in white text.

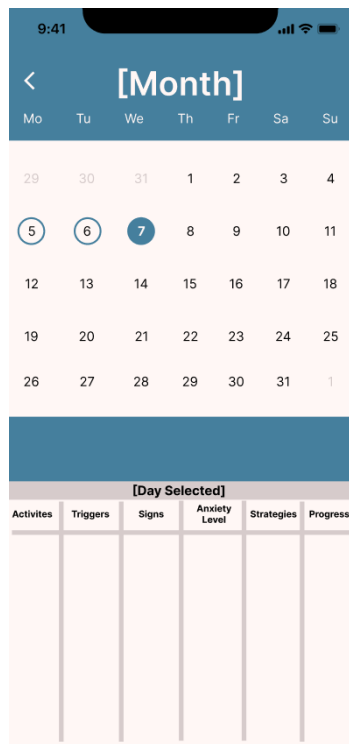
15. Intention Page



16. Dashboard Page



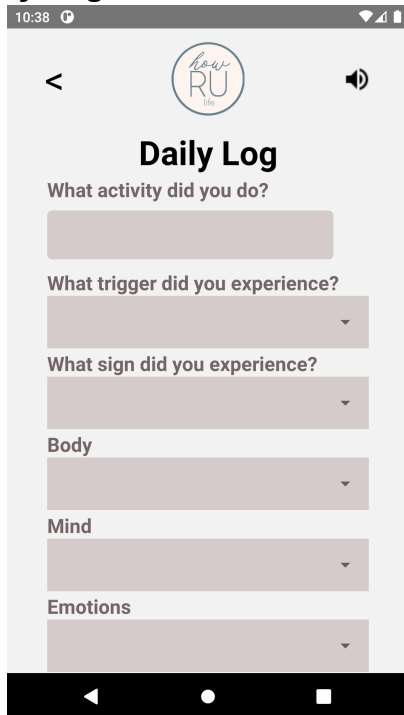
17. Mood Diary Page



18. Awareness/Four Quadrants



19. Daily Log

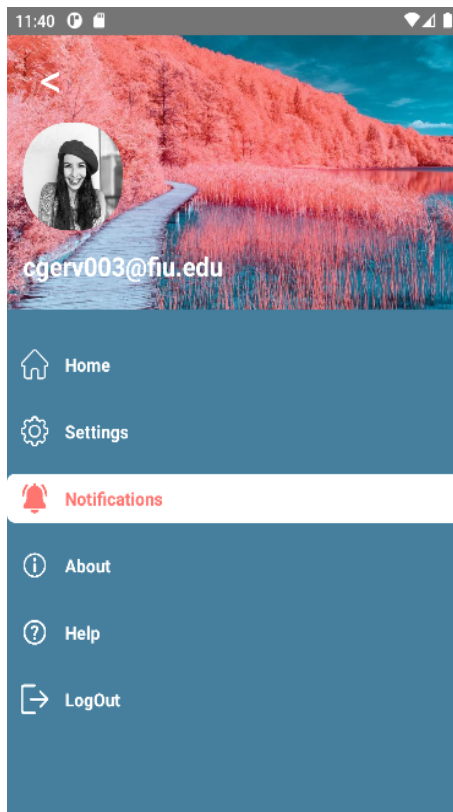


The screenshot shows the 'Daily Log' screen of the app. At the top, there is a status bar with the time 10:38 and various icons. Below the status bar is a navigation bar with a back arrow, a circular logo with 'how RU' inside, and a speaker icon. The main title 'Daily Log' is centered. Below the title, there are five questions, each followed by a text input field:

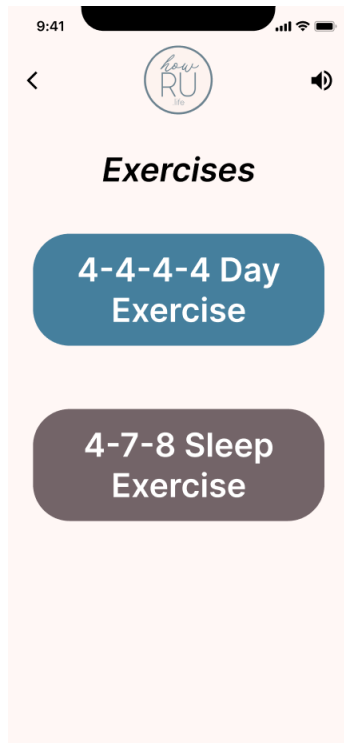
- What activity did you do?
- What trigger did you experience?
- What sign did you experience?
- Body
- Mind
- Emotions

Each input field has a small downward arrow on the right side, indicating a dropdown menu. The bottom of the screen shows the Android navigation bar with back, home, and recent apps buttons.

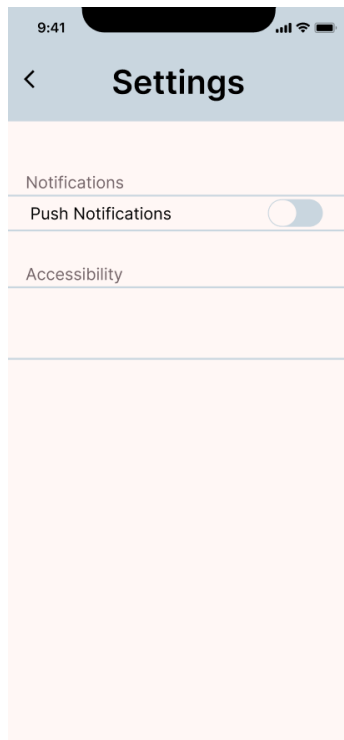
20. Menu Page



21. Exercises



22. Settings



Appendix C - Sprint Review Reports

Sprint Review - Sprint 1

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 9/9/22

Time: 30 minutes

Start time: 8:30 PM

End time: 9:00 PM

User Stories Accepted by Product Owner

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)
- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)
- User story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)

User Stories Moved to the Product Backlog for Future Sprint Planning

- N/A

Sprint Review - Sprint 2

Sprint Review Meeting Minutes:

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 9/23/22

Time: 30 minutes

Start time: 9:00 PM

End time: 9:30 PM

User Stories Accepted by Product Owner

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)
- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)
- User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)

User Stories Moved to the Product Backlog for Future Sprint Planning

- User Story 5: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)

Sprint Review - Sprint 3

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 10/07/22

Time: 30 minutes

Start time: 9:00 PM

End time: 9:30 PM

User Stories Accepted by Product Owner

- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)
- User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)

User Stories Moved to the Product Backlog for Future Sprint Planning

- User Story 5: As a user, I want to be able to see how many days I've logged into the app in a row. (LOW PRIORITY)
- User Story 6: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)

User Stories Completed

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)

Sprint Review - Sprint 4

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 10/22/22

Time: 30 minutes

Start time: 9:00 PM

End time: 9:30 PM

User Stories Accepted by Product Owner

- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)
- User Story 6: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)

User Stories Moved to the Product Backlog for Future Sprint Planning

- User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)
- User Story 5: As a user, I want to be able to see how many days I've logged into the app in a row. (LOW PRIORITY)

User Stories Completed

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)

Sprint Review - Sprint 5

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 11/6/22

Time: 30 minutes

Start time: 9:00 PM

End time: 9:30 PM

User Stories Accepted by Product Owner

- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)
- User Story 6: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)
- User Story 7: As a user, I want the daily notification GUI to look nicer overall. (LOW PRIORITY)

User Stories Moved to the Product Backlog for Future Sprint Planning

- User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)
- User Story 5: As a user, I want to be able to see how many days I've logged into the app in a row. (LOW PRIORITY)

User Stories Completed

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)

Sprint Review - Sprint 6

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 11/6/22

Time: 30 minutes

Start time: 9:00 PM

End time: 9:30 PM

User Stories Accepted by Product Owner

- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 6: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)
- User Story 7: As a user, I want the daily notification GUI to look nicer overall. (LOW PRIORITY)
- User Story 8: As a user, I would like to be able to have my credentials stored to use the application easier. (HIGH PRIORITY)

User Stories Moved to the Product Backlog for Future Sprint Planning

- User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)
- User Story 5: As a user, I want to be able to see how many days I've logged into the app in a row. (LOW PRIORITY)

User Stories Completed

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)

Sprint Review - Sprint 7

Attendees: Noah Pineiro, Ximena Puig, Cecilia Gervasoni Latorre, James Bustos, Jose Aguiar, Robert Velasquez, Ryan Neubert, Eduardo Gomez, Tatendaishe Mahaka, Luis Artimez

Product Owner: Liane Sangollo

Date: 11/6/22

Time: 30 minutes

Start time: 9:00 PM

End time: 9:30 PM

User Stories Moved to the Product Backlog for Future Sprint Planning

- User Story 4: As a user, I want to be able to track my data on a daily basis and have that data shown in an organized fashion. (HIGH PRIORITY)
- User Story 5: As a user, I want to be able to see how many days I've logged into the app in a row. (LOW PRIORITY)

User Stories Completed

- User Story 1: As a developer, I want to learn how to properly use all the software required for this project. (HIGH PRIORITY)
- User Story 2: As a user, I want to see the Stress & Anxiety Management application have a nicer design. (HIGH PRIORITY)
- User Story 3: As a user, I want my experience with the application to be more immersive and friendly to the senses. (MEDIUM PRIORITY)
- User Story 6: As a user, I want to get a notification at a certain time in the day that tells me to log into the app. (LOW PRIORITY)
- User Story 7: As a user, I want the daily notification GUI to look nicer overall. (LOW PRIORITY)
- User Story 8: As a user, I would like to be able to have my credentials stored to use the application easier. (HIGH PRIORITY)

Appendix D - User Manuals, Installation/Maintenance Document, Shortcomings/Wishlist Document, and other documents

Installation/Maintenance Document: Local Development Environment Setup Guide

There are two ways to run a development instance of the Anxiety & Stress application. The first method is running the application using an emulator on a Windows machine through Android Studio, and the second method is running the application using a simulator on a MacOS machine through XCode.

For New Prototype:

Frontend:

Downloads list:

- **Android**

Step 1: Download Node LTS Windows Installer:

<https://nodejs.org/en/download/>

Step 2: Download Visual Studio Code:

<https://code.visualstudio.com/download>

Step 3: Download Java 11.0.2 JDK:

<https://www.oracle.com/java/technologies/javase/jdk11-archive-downloads.html>

Step 4: Download and install Android Studio:

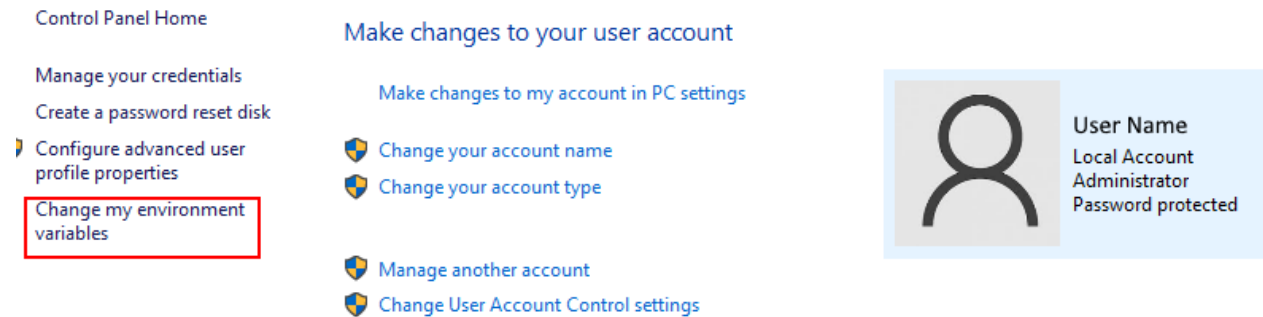
<https://developer.android.com/studio>

Step 5: Download and install GitHub Desktop:

<https://desktop.github.com/>

Step 6: Configure the ANDROID_HOME environment variable

File Explorer > Control Panel > User Account > User Accounts > Change my environment variables

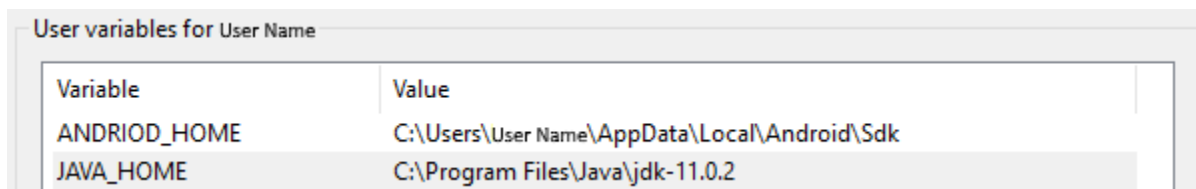


Under "user variables" > "New..."

Variable name:

ANDROID_HOME

Variable value: C:\Users\[name]\AppData\Local\Android\Sdk



Copy and paste into powershell, and verify ANDROID_HOME has been added

```
Get-ChildItem -Path Env:\
```

Step 7: Configure JAVA_HOME environment variable

File Explorer > Control Panel > User Account > User Accounts > Change my environment variables

Under "user variables" > "New..."

Variable name:

JAVA_HOME

Variable value: C:\Program Files\Java\jdk-[version]

Click "OK"

Under "user variables" > "Path" > "Edit..." > "New"

%JAVA_HOME%\bin

Click "OK"

Copy and paste into CMD, and verify JAVA_HOME has been added

echo %JAVA_HOME%

Step 8: Configure path to Android Studio platform tool (this will allow you to run the project from VSC)

Under "user variables" > "Path" > "Edit..." > "New"

C:\Users\[name]\AppData\Local\Android\Sdk\platform-tools

Click "OK"

Step 9: Open Android Studio > open settings > SDK Manager > SDK Platforms, select

Android API 32

Android 11.0 (R)

Select "Show Package Details" and under "Android 11.0 (R)" section, select

Android SDK Platform 30

Sources for Android 30

Intel x86 Atom_64 System Image

Google APIs Intel x86 Atom System Image

Google APIs Intel x86 Atom_64 System Image

Google Play Intel x86 Atom System Image

Google Play Intel x86 Atom_64 System Image

SDK Platforms SDK Tools SDK Update Sites				
Each Android SDK Platform package includes the Android platform and sources pertaining to an API level by default. Once installed, the IDE will automatically check for updates. Check "show package details" to display individual SDK components.				
Name	API Level	Revision	Status	
☐ Google Play Intel x86 Atom_64 System Image	31	9	Not installed	
▼ Android 11.0 (R)				
☒ Android SDK Platform 30	30	3	Installed	
☒ Sources for Android 30	30	1	Installed	
☐ Android TV Intel x86 Atom System Image	30	3	Not installed	
☐ China version of Wear OS 3 - Preview ARM 64 v8a System Image	30	10	Not installed	
☐ China version of Wear OS 3 - Preview Intel x86 Atom System Image	30	10	Not installed	
☐ Wear OS 3 - Preview ARM 64 v8a System Image	30	10	Not installed	
☐ Wear OS 3 - Preview Intel x86 Atom System Image	30	10	Not installed	
☐ AOSP ATD ARM 64 v8a System Image	30	1	Not installed	
☐ AOSP ATD Intel x86 Atom System Image	30	1	Not installed	
☐ ARM 64 v8a System Image	30	1	Not installed	
☒ Intel x86 Atom_64 System Image	30	10	Installed	
☐ Google TV Intel x86 Atom System Image	30	3	Not installed	
☐ Google APIs ARM 64 v8a System Image	30	11	Not installed	
☒ Google APIs Intel x86 Atom System Image	30	10	Installed	
☒ Google APIs Intel x86 Atom_64 System Image	30	11	Installed	
☒ Google Play Intel x86 Atom System Image	30	9	Installed	
☒ Google Play Intel x86 Atom_64 System Image	30	10	Installed	

Step 10: Open Android Studio > open settings > SDK Manager > SDK Tools, select

Android SDK Build-Tools 33-rc1

Android SDK Command-line Tools (latest)

Android Auto API Simulators

Android Auto Desktop Head Unit Emulator

Android Emulator

Android SDK Platform-Tools

Google Play APK Expansion library

Google Play Instant Development SDK

Google Play Licensing Library

Google Play services

Google Web Driver

IF ON INTEL: Intel x86 Emulator Accelerator (HAXM installer)

IF ON AMD: Android Emulator Hypervisor Driver for AMD Processors
(installer)

Click "OK"

SDK Platforms SDK Tools SDK Update Sites			
Below are the available SDK developer tools. Once installed, the IDE will automatically check for updates. Check "show package details" to display available versions of an SDK Tool.			
Name	Version	Status	
☒ Android SDK Build-Tools 33		Update Available: 33.0.0	
☐ NDK (Side by side)		Not Installed	
☒ Android SDK Command-line Tools (latest)		Installed	
☐ CMake		Not Installed	
☒ Android Auto API Simulators	1	Installed	
☒ Android Auto Desktop Head Unit Emulator	1.1	Installed	
☒ Android Emulator	31.2.10	Installed	
☐ Android Emulator Hypervisor Driver for AMD Processors (installer)	1.8.0	Not installed	
☒ Android SDK Platform-Tools	33.0.1	Update Available: 33.0.2	
☒ Google Play APK Expansion library	1	Installed	
☒ Google Play Instant Development SDK	1.9.0	Installed	
☒ Google Play Licensing Library	1	Installed	
☒ Google Play services	49	Installed	
☐ Google USB Driver	13	Not installed	
☒ Google Web Driver	2	Installed	
☒ Intel x86 Emulator Accelerator (HAXM installer)	7.6.5	Installed	

Step 11: Open Android Studio > open settings > Virtual Device Manager > Create device, select

Select Pixel 2

Under x86 Images, download both

R 30 x86 Android 11.0(Google APIs)

R 30 x86_64 Android 11.0

Name ▾	Play Store	Size	Resolution	Density
Pixel 3a XL		6.0"	1080x2160	400dpi
Pixel 3a	▶	5.6"	1080x2220	440dpi
Pixel 3 XL		6.3"	1440x2960	560dpi
Pixel 3	▶	5.46"	1080x2160	440dpi
Pixel 2 XL		5.99"	1440x2880	560dpi
Pixel 2	▶	5.0"	1080x1920	420dpi
Pixel	▶	5.0"	1080x1920	420dpi
Nexus 5		4.0"	480x800	hdpi
Nexus One		3.7"	480x800	hdpi
Nexus 6P		5.7"	1440x2560	560dpi
Nexus 6		5.96"	1440x2560	560dpi

Recommended x86 Images Other Images			
Release Name	API Level ▾	ABI	Target
API 33 Download	33	x86_64	Android API 33 (Google APIs)
Sv2 Download	32	x86_64	Android API 32 (Google APIs)
S Download	31	x86_64	Android 12.0 (Google APIs)
S Download	31	x86_64	Android 12.0
R Download	30	x86	Android 11.0 (Google APIs ATD)
R	30	x86_64	Android 11.0 (Google Play)
R	30	x86_64	Android 11.0 (Google APIs)
R	30	x86	Android 11.0 (Google APIs)
R	30	x86_64	Android 11.0
R Download	30	x86	Android 11.0 (AOSP ATD)
Q Download	29	x86_64	Android 10.0 (Google Play)
Q Download	29	x86_64	Android 10.0 (Google APIs)
Q Download	29	x86	Android 10.0 (Google APIs)
Q Download	29	x86_64	Android 10.0

NOTE: Select the image that has (Google APIs) on it, and press "Finish", then try launching the emulator, if it works, you're good to go.

If you get an error, try the option below

NOTE: Select the image WITHOUT (Google APIs) on it, then try launching the emulator.

If you still get an error, try the option below

NOTE: Select the image that has (Google APIs) on it, then before pressing "Finish" under the section of "Emulated Performance" change the Graphics to "Software - GLES 2.0", then try running the emulator.

If you still get an error, try the option below

NOTE: Select the image WITHOUT (Google APIs) on it, then before pressing "Finish" under the section of "Emulated Performance" change the Graphics to "Software - GLES 2.0", then try running the emulator.

If you still get an error, try the option below

NOTE: Open File Explorer > C:\Users\[name]\.android, add a new file called "advancedFeatures.ini", inside add

Vulkan = off

GLDirectMem = on

save and repeat Step 9, until one of the options above works

Step 10: Open the project in Android Studio under the "android" file that's inside of the main directory of this project. (Keep Android Studio Opened)

• IOS

Step 1: Open terminal outside of VSC (Keep this terminal open)

brew update

brew install node

brew install watchman

brew install git

Step 2: Install XCode through the app store

Step 3: Install and/or update XCode command line tools through the terminal (May take a while to download)

xcode-select --install

softwareupdate --install -a

NOTE: if you already have XCode, but your command line tools are not updating, it is likely because you might have a pending MacOS update. If this is the case run

sudo rm -rf /Library/Developer/CommandLineTools

xcode-select --install

Step 4: Open up XCode > Preferences > Locations

On the "Command Line Tools" section, make sure you have the latest version selected

Step 5: XCode > Preferences > Components

Download the iOS 15.0 Simulator (Latest Version)

Step 6: Open another terminal outside of VSC

```
sudo gem install cocoapods
```

NOTE: if you get an error installing cocoapods do

```
brew cleanup -d -v
```

```
brew install cocoapods
```

NOTE: if you see failed to link then run

```
brew link cocoapods
```

Step 7: initialize Podfile, while on the main directory do

```
cd ios
```

```
pod init
```

(If it doesn't exist) and then

```
pod install
```

IOS SETUP DONE

NOTE: if you get **** BUILD FAILED **** when attempting to start the application, you most likely will have to run the project inside of XCode itself. The file you want to open is on ANXIETY-STRESS-SELF-MANAGEMENT > ios > anxietyStressSelfManagement.xcodeproj

NOTE: if you get "fatal error: 'React/RCTBridgeDelegate.h' file not found #import <React/RCTBridgeDelegate.h>", repeat Step 6, but at the end open the workspace project and delete the build from ios folder, then start the application

NOTE: if you get "Error error SHA-1 for file is not computed" issue, do

```
npm install -i -g --force react-native-cli
```

delete the node_modules, reinstall pods, delete workspace build, re-install dependencies, and run metro and the project again

User Manual: Guide to Start the Application

Step 1: in terminal, update the version of react-native to the latest version

npm install

NOTE: If the build of the application fails for some reason, even after properly setting up the development environment, try running the following command in the root folder

npm audit fix

NOTE: To upgrade react-native to the latest version (**DO NOT DO THIS UNLESS YOU WANT TO UPGRADE THE CLI**)!!!

npm install --save react-native@latest

NOTE: if you upgrade react-native's version, you also have to update the react-native-cli (DO NOT DO THIS UNLESS YOU ARE TOLD TO)

npm install -i -g --force react-native-cli

Step 2: Start Metro (application watcher), inside your React Native project run

npx react-native start

Step 3: Start the application

(Android) open another terminal aside from the first one and run the line below

npx react-native run-android

(ios) open another terminal aside from the first one and run the line below

npx react-native run-ios

TROUBLESHOOTING: go to <https://reactnative.dev/docs/troubleshooting>

Shortcomings/To-Do List

Some of the features we did not get to implement are but not limited to:

- Database needs to be switched from Firebase to MongoDB
- Save user data from the different exercises in MongoDB
- Add notifications for the iOS version
- Add statistics graphics with the users data in the app. Allowing them to view their progress
- Expand the calendar to be an agenda
- Add more exercises to the application